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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,384	07/07/2003	Steven R. Hilliard	27234.01	7445
22465	7590	08/18/2004	EXAMINER	
PITTS AND BRITTIAN P C			DEB, ANJAN K	
P O BOX 51295			ART UNIT	
KNOXVILLE, TN 37950-1295			PAPER NUMBER	
			2858	

DATE MAILED: 08/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/614,384

Applicant(s)

HILLIARD ET AL.

Examiner

Anjan K Deb

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35, 37 and 38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. In response to applicant's arguments regarding rejection under 35 U.S.C. § 102 (b) that lines 24 and 26 disclosed by Toppeto US 4,263,549 are not driver circuits, claims are interpreted as broadly as their terms reasonably allow (please refer to MPEP 2111) therefore lines 24, 26 are broadly interpreted as driver circuits consistent with IEEE* definition of driver circuit (*electronic circuit that supplies input to another electronic circuit*). Lines 24 and 26 comprise an electronic circuit that supplies input to another electronic circuit 10.

Electronic circuit 10 disclosed by Toppeto US 4,263,549 (Fig. 1) is broadly interpreted as demodulation circuit consistent with IEEE definition (see attached) of demodulation (*derive a wave having substantially the same characteristic of the original modulating wave*)(the waves appearing at the terminals 20, 22 being considered the original modulating wave).

The demodulation circuit 10 further comprise filter (column 3 lines 16-18) therefore Toppeto US 4,263,549 discloses filter in electrical communication with demodulation circuit.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

* IEEE 100 The Authoritative Dictionary of IEEE Standards Terms (pages 287 and 339)

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3. Claim 36 is rejected under 35 U.S.C. 102(b) as being anticipated by Toppeta (US 4,263,549).

Re claim 36, Toppeto et al. discloses (Fig. 1) inductance measurement circuit for measuring an inductance of a wire-loop 12, comprising pair of driver circuits 24,26 in electrical communication with wire-loop 12, and demodulation circuit 10 in electrical communication with said pair of driver circuits producing demodulated signal, and filter (column 2 lines 14-17) in electrical communication with demodulation circuit.

Allowable Subject Matter

4. Claims 1-35, 37 and 38 are allowed.

Reasons for Indicating Allowable Subject Matter

5. The following is a statement of reasons for the indication of allowable subject matter:

The instant application is deemed to be directed to a non-obvious improvement over the inventions patented in US Pat. No. 4,263,549 issued to Toppeta. The improvement comprises means for converting an analog signal into a digital signal in electrical communication with a pair of driver circuits, said means for converting an analog signal into a digital signal producing a digital signal representing an inductance measured of a wire-loop. While Kogure (US 5,469,156) discloses output from field sensor is input to A/D converter for digital transmission of sensor data for processing by microprocessor it does not produce a digitized signal representing an inductance measured of a wire-loop.

In the examiner's opinion, it would not have been obvious to a person of ordinary skill in the art to modify Topetta by adding an A/D converter disclosed by Kogure to produce a digitized signal representing an inductance measured of a wire-loop

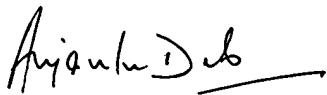
THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Anjan K. Deb whose telephone number is 571-272-2228. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, N. Le, can be reached at (571) 272-2233.



Anjan K. Deb

Patent Examiner

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8/12/04

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